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Air Compliance Inspection Report

Facility: U.S. Department of Energy, Hanford Site
Richland, Washington

Facility Representatives: Hector Rodreguez, DOE/RL, (509) 376-6421
Russell Johnson, Contractor, Waste Management, Inc.

Agency Inspectors: Emad Shahin, Environmental Engineer, EPA (report author)
John Schmidt, John Martel, Gail Laws, and Johanna Berky, Washington Department of Health
Jerry Hensley, Environmental Engineer, Washington Department of Ecology

Date of Inspection: May 11, 1998

Date of Report: July 9, 1998

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Background

The Hanford site occupies an area of approximately 560 square miles located north of Richland and the confluence of the Yakima River with the Columbia River. The site was established in 1943 to produce plutonium for some of the nuclear weapons tested and used in World War II.. Hanford operations have resulted in the production of liquid, solid, and gaseous wastes. Most of these wastes contained or had the potential to contain radioactive materials. The mission of the Hanford site is no longer plutonium production. The site emphasizes cleanup and restoration, waste management, research and development of new waste treatment and disposal technologies. (See attachment 1 for site maps and layout)

File Review

Prior to the inspection I reviewed the EPA air compliance file for the Hanford site. According to the files, there were no multi media inspections conducted at the site. The file indicated that Hanford site applied for a Title V operating permit with the Department of Ecology. A copy of the draft permit was sent to EPA for review during the public comments period. The public comments period ended last month. Once Ecology prepares a proposed permit to the EPA with the changes that were made during the public comments period, EPA will have 45 days to review the proposed permit. The permit application addresses air emissions from more than 380 individual emission points. The Washington Department of Health regulates airborn radionuclide emissions and has permitted the emissions under permit number FF . The file also includes a Notice of Construction for 44 new boilers in the 200 East, 200 West, and 300 areas. The boilers vary in size, with heat input capacity range between 0.4 MMBtu/hr to 26.3MMBtu/hr. The boilers are equipped with low NOx burners and flue gas recirculation

(FGR) which has been determined to be best available control technology for NOx.. The files also contain a notice of violation issued by WaDOH on May 13, 1998 for violating the radioactive air emissions regulations in the operation of the plasma arc furnace in the 324 building - Waste Technology Engineering Laboratoy, located in the 300 area.
I attended several meetings prior to the inspection, with Washington Department of Health (WaDOH), and Department of Ecology (WaDOE) to plan and coordinate for the inspection by talking to our counterparts and outlining the areas of concern and the issues that needed to be discussed during the inspection.

Opening Conference

We arrived at the Federal Building in Richland on Monday May 11, 1998 at 1:00 PM for the opening conference. Doug Smith started the conference by stating our purpose and goal of the multimedia inspection. He explained how facilities are chosen for such inspections and explained what each media might be interested in looking at. Then Doug asked each media lead to discuss his/her interests and elaborate on what they would be looking for. I stated that I will be conducting the radionuclide emissions inspection jointly with the WaDOH inspectors, and for the non-radionuclide inspection, I would be looking at how the facility demonstrates compliance with the applicable regulations. After the conference I went to get a DOE visitor badge, and went through the required safety training. The physical inspection of the facility started on Tuesday May, 12, 1998.

Inspection

- Radionuclides Inspection : Please refer to attachment 2 (WADOH Inspection Report)

-Non-Radionuclides Inspection

I asked Mr. Rodreguez and Mr. Johnson about boilers at the site They stated that several large coal and oil fired boilers that serviced the 200 and 300 areas were replaced by 41 new boilers firing either natural gas or low sulfur distillate oil and a Notice of Construction application for this project was submitted to the WDOE and has been approved. (Attachment 3). DOE has contracted with Johnson Controls, Inc. to maintain the boilers. Operations of the boilers are monitored and controlled from a central control facility located in the three hundred area. On Wednesday after noon, July 13, 1998, I stopped at the 300 area boilers control room. The boilers are equipped with low NOx burners and flue gas recirculation (FGR) which has been determined to be best available control technology for NOx. NSPS Subpart Dc is applicable to the five oil fired boilers that are greater than 10 MM Btu/hr. Initial performance tests have been conducted and reports of the results were submitted to the WDOE. Attachment 4 includes the fuel supplier certificate of the oil sulfur content, and the monthly emission calculations for the boilers.

Closing Conference

I completed my inspection according to the WDOH inspection schedule on Friday 15, 1998. I returned to the Federal Building in Richland with Doug Smith for a debriefing on the first week

of the inspection. At 1:00 PM we debriefed Mr. John Wagoner, the Hanfod Site Manager and discussed some areas of concern. The WDOH inspectors were also present. We left the Federal building at approximately at 3:00 PM.

List of Attachments

Attachment No.	Description
1	Site map and plot plan
2	WDOH Inspection Report
3	Boilers Replacement NOC
4	Boiler Emissions and Fuel Certificate
5	A Copy of the NOV issued by WDOH
6	A Copy of the Response Letter by US DOE
7	Results of the Initial Performance Tests for the Boilers

AIR 98-607

STATE OF WASHINGTON
DEPARTMENT OF HEALTH
DIVISION OF RADIATION PROTECTION
7171 Cleanwater Lane, Bldg. 5 • P.O. Box 47827 • Olympia, Washington 98504-7827
TDD Relay 1-800-833-6388

July 6, 1998

Mr. Emad Shahin
U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101-OEA-095

Dear Mr. Shahin:

Enclosed are the inspection reports from the Washington State Department of Health (WDOH) for the May Multi-Media Inspections. The inspections were conducted jointly by teams from Environmental Protection Agency (EPA), WDOH; and Washington State Department of Ecology (WSDOE).

The reports include the following inspections:

- WRAP / CWC and TRUSF Facilities
- 222-S Laboratory
- 105 KE-Basin
- 1706 KE Laboratory Facility
- 105 N Reactor
- 324 Building
- 241 AP Tank Farm
- Waste Sampling Characterization Facility
- T-Plant
- S / SX and SY Tank Farm Complex

There were several general issues we identified during the Multi-Media Audit:

1. Many minor stacks are not being maintained at the appropriate level.

2. The failure by some facilities to transfer the conditions placed by WDOH in the approval Notices of Construction into operational practice continues to be a problem.

3. Some records are not being maintained as readily retrievable for regulatory review.

If you have any questions about these reports, please feel free to call me at (360) 236-3261, or Cindy Grant at (206) 464-6206.

Sincerely,

Allen W. Conklin, Manager
Air Emissions and Defense Waste Section
Division of Radiation Protection

AWC/jr

cc: Jerry Leitch, EPA
John Bates, FDH
Doug Sherwood, EPA
Steve Alexander, Ecology
James E. Rasmussen, DOE-RL

MULTI-MEDIA INSPECTION

Date: May 12, 1998
Facility: 222-S Laboratory Complex
E. U. Status: 296-S-21 / 296-S-16 Operational Minor Stacks

- Inspectors:

  Department of Health - John Martell, John Schmidt
  Environmental Protection Agency - Emad Shahin
  Department of Ecology – Jerry Hensley

- Department of Energy Escorts:

  DOE/RL-EAP – Hector Rodriguez
  DOE/RL-TWRS – Dennis Bowser

- Hanford Contractor Escorts:

  WMH – Russell Johnson

- 222-S Facility Escorts:

  Ron Boon, Lanny Weaver

- Facility Description:

  The 222-S Facility (REDOX Laboratory) and the 219-S Waste Tank Facilities are located in the 200-W Area of the Hanford Site. The main functions of these facilities are to receive, prepare, process, and analyze radioactive and other samples collected on the Hanford Site. The 222-S Laboratory and the 219-S Waste Tank Facility are exhausted by two separate main emission units. The 296-S-21 exhausts the 222-S Laboratory and the 296-S-16 exhausts the 219-S Waste Tank Facility.

- Inspection Description:

  <u>296-S-16 Emission Unit (219-S Facility)</u>

  The emission unit appeared to be in good shape. The sample flow rate was operating at 105 SCFH. All emissions equipment calibration stickers were dated April 10, 1998. Emissions monitoring equipment appeared to be in good condition.

Issue: HEPA filter test ports were not labeled. This is considered a "Best Management Practice" for older facilities with minor emission units that must meet the ALARACT standards.

Status: HEPA filter test ports will be labeled by May 1999. **Issue closed**

296-S-21 Emission Unit (222-S Facility)

The emission unit appeared to be in good shape except for the damage caused to the duct structural support for the back-up emission unit. The structural support, damaged by a truck in 1995, is bent and miss-shaped to the point that structural integrity is in questions.

Issue: The priority to repair the damage of the structural support needs to be addressed.

Status: Explanation was provided on May 20, 1998, by Ron Boom. There is not funding currently available to make repairs to the damaged structure. This decision to not repair the support was based on discussions with structural engineers and observation of system in operation. No structural calculations were completed on the damage support. Review of the original estimation calculations and based on "engineering judgement," the system was found to be operational in an emergency situation, but should be repaired. **Issue is Still Open**

The following information was requested from the facility to be delivered at the close of business on May 13, 1998.

- The last HEPA aerosol test, instrument calibration, and periodic confirmatory measurement record for each emission unit.

- Records documenting required monitoring during the T-7/8 tunnel clean out and the CO_2 Decontamination Facility operation.

These records were delivered and reviewed on May 13, 1998. The following issues were provided to Hector Rodriguez and Russell Johnson on May 14, 1998.

Issue: Periodic confirmatory measurement data for both emission units contain sample gaps (some as great as two days). Please explain the causes of the gaps?

Status: An explanation was provided on May 20, 1998, by Ron Boon. Gaps occur when the sampler and stack were not in operation. **Issue Closed**

Issue: Sample data for the CO_2 Decontamination Facility had on sample period that all results were zero flow and no reportable activity. Explanation requested?

Status: An explanation was provided on May 20, 1998, by Ron Boom. Flow rates were incorrectly entered. Corrections were made and new documentation was provided. **Issue Closed**

Issue: The records provided for the aerosol testing do not meet the requested data. Please provide the correct records.

Status: Explanation was provided on May 20, 1998, by Ron Boom. Testing is recorded per the procedure on the work package data sheets. **Issue Closed**

- Investigation Summary:

  Open Issue: The repair of the damaged the structural support for the back up to the 296-S-21 emission needs to be addressed.

  Currently there are no plans to replace or repair the damaged structural support. No funding is available. No structural modeling of the damaged structure has been performed. Priorities for funding have been based on engineering judgment.

All other inspection issues are closed.

MULTI-MEDIA INSPECTION

Date: May 13, 1998
Facility: 241 AP Tank Farm
E. U. Status: 296-A-40 / 296-A-42 Operational Minor Stacks

- Inspectors:

  Department of Health – Johanna Berkey, Gail Laws
  Environmental Protection Agency – Emad Shahin
  Department of Ecology – Jerry Hensley

- Department of Energy Escorts:

  DOE/RL-EAP – Hector Rodriguez
  DOE/RL-TWRS – Dennis Bowser

- Hanford Contractor Escorts:

  WMH – Russell Johnson

- AP Tank Farm Facility Escorts:

  John Guberski

- Facility Description:

  AP Tank Farm is a Double Shell Tank Farm that contains several million gallon tanks.

- Inspection Description:

  The inspectors enter the AP Tank Farm and visually inspected the two stacks monitoring cabinets. The stack cabinets were in compliance with calibration requirements.

- Issue:

  There are no issues of concern at this time for this emission unit.

- Documents Requested:

  HEPA records and procedures for the past five years.

- Investigation Summary:

  All inspection issues are closed.

MULTI-MEDIA INSPECTION

Date: May 13, 1998
Facility: Waste Sampling Characterization Facility (WSCF)
E. U. Status: 696-W-1 / 696-W-2 Operational Minor Stacks

- Inspectors:

  Department of Health – Johanna Berkey, Gail Laws
  Environmental Protection Agency – Emad Shahin
  Department of Ecology – Jerry Hensley

- Department of Energy Escorts:

  DOE/RL-EAP – Hector Rodriguez
  DOE/RL-TWRS – Dennis Bowser

- Hanford Contractor Escorts:

  WMH – Russell Johnson

- WSCF Facility Escorts:

  Jim Morrison

- Facility Description:

  WSCF is a laboratory focusing on environmental samples. The Facility completed construction in 1994 and shortly after started analyzing air samples, soil and water samples on the Hanford Site.

- Inspection Description:

  A Notice of Construction (NOC) verification inspection was conducted. This inspection involves examining of the NOC and verifying that the facility meets all the requirements for this NOC. This specific NOC was approved by WDOH in 1990. The current regulations came into effect on April 21, 1994. The inspectors discussed the process description, control technologies, stack monitoring and source term inventory.

  <u>696-W-1 Emission Unit (Main Building)</u>

  The emission unit ventilates the main building and is considered the main stack for the Facility.

Issue: The inspection walk-down occurred one day prior to the calibration expiration date for the stack monitoring cabinet instrumentation. The inspection team pointed out that the calibration was only good for one more day and that they want to ensure

that the instrumentation was calibrated prior to the completion of this audit. The inspectors reviewed a work package for calibrating the instrument on May 22, 1998. The inspectors will re-inspect the facility to verify that the instruments are calibrated.

696-W-2 Emission Unit (WSCF)

Issue: There were no areas of concern form this emission unit.

- Information Requested from the Facility:

  - Radionuclide Inventory (Liquid Standards: Opened)
  - Stack Sample Probe Schematics

All documents requested were received in a timely manner.

- Investigation Summary:

  All Inspections Issues are Closed.

MULTI-MEDIA INSPECTION

Date: May 13, 1998
Facility: T Plant Complex
E. U. Status: 291-T-1 / 296-T-7 / 296-T-13 Operational Minor Stacks

- Inspectors:

  Department of Health – Johanna Berkey, Gail Laws
  Environmental Protection Agency – Emad Shahin
  Department of Ecology – Jerry Hensley

- Department of Energy Escorts:

  WMH – Russell Johnson

- T Plant Facility Escorts:

  Brett Barnes

- Facility Description:

  T Plant is an old shutdown separations facility that stopped operating in 1952. The facility currently decontaminates large equipment for free release. The facility also stores large contaminated equipment.

- Inspection Description:

  This inspection included a quick visual tour of the outside of the facility and examination of the main stack cabinet (296-T-1). The HEPA filter banks were reviewed briefly. Time was limited. The inspection team felt the visual inspection was adequate for this facility. All instrumentation located in the stack cabinet were in calibration.

No records or documents were requested during this inspection.

- Investigation Summary:

  There are no open inspection issues.

MULTI-MEDIA INSPECTION

Date: May 14, 1998
Facility: S/SX/SY Tank Farm Complex
E. U. Status: 296-S-15 (SX Primary), 296-P-23 (SY Primary, 296-P-28 (SY Back-up) 296-S-18 (242 Evaporator Building Exhaust) Operational Minor Stacks

- Inspectors:

  Department of Health – John Martell, John Schmidt
  Environmental Protection Agency – Emad Shahin

- Department of Energy Escorts:

  DOE/RL-EAP – Hector Rodriguez

- Hanford Contractor Escorts:

  'WMH – Russell Johnson

- S/SX/SY Tank Farm Facility Escorts:

  Phil Miller, Scott Conrad, Ron Tucker

- Facility Description:

  The S/SX/SY Tank Farms are located in the 200 West Area of the Hanford Site. These facilities consist of multiple single and double shell tanks used to contain radioactive waste from various facilities located on the Hanford Site. Current activities being conducted in the Tank Farm Complex are general operations, rotary and push mode core sampling of tank waste. Four active emission units were inspected. The 296-S-15; which exhausts the SX high heat tanks; the 296-P-23 and P-28 are able exhausters; which act as the primary and back-up exhauster for the SY Tank Farm; 296-S-18; which exhausts the shut-down 242-S Evaporator Building. The following tank passive emission units were also inspected: 104-SX, 104-S, and 108-S.

- Inspection Description:

  <u>296-S-15 Emission Unit (241-SX Tank Farm)</u>

  The emission unit appeared to be in good shape. The sample flow rate was operating at 87 standard cubic feet per hour (SCFH).

296-P-23/P-28 Emission Unit (241-SY Tank Farm)

The emission unit appeared to be in good shape. The sample flow rate was operating at 120 standard feet per hour (SCFH). Emissions monitoring equipment appeared to be in good condition.

296-S-18 Emission Unit (242-S Evaporator Building Exhaust)

The emission unit was not functioning due to the fan being shut off. The emission unit was in good shape except for excessive deterioration of the flex connections between the fan housing and the HEPA filter housing, aerosol test ports that were not covered, and contamination control devices not properly attached to the damper control handles. Emissions monitoring equipment appeared to be in good condition.

Issue: The flex connections should be maintained to prevent failure of the emission unit. "Best Management Practice" (BMP) for minor emission units build prior to March 4, 1994, and must meet the ALARACT Standard.

Status: Steel tape is being applied to the flex connections as a temporary fix. Work package 2W-98-0888 has been generated for a permanent fix. Completion date: December 31, 1998. **Issue Closed**

Issue: The test ports should be "capped" to prevent under estimating of emissions. BMP for minor emission units built prior to March 4, 1994, and must meet the ALARACT Standard.

Status: The test ports will be "capped" with steel tape. Action to be completed by May 29, 1998. **Issue Closed**

Issue: The contamination control device (plastic sleeve) on the damper controls was not attached. The passive emissions to the environment should be controlled. BMP for minor emission units built prior to March 4, 1994, and must meet the ALARACT Standard.

Status: The sleeving problem will be corrected by May 29, 1998. **Issue Closed**

Issue: HEPA filter test ports were not labeled. This is considered a BMP for minor emission units built prior to March 4, 1994, and must met the ALARACT Standard.

Status: The HEPA filter test ports will be labeled for the SX and SY exhauster by July 31, 1998. **Issue Closed**

- The following information was requested from the facility to be delivered at the close of business May 18, 1998.

  - The last HEPA aerosol test, instrument calibration, and periodic confirmatory measurement record for each emission unit.

  - The last HEPA aerosol test for the 104-SX, 104-S and 108-S passive emission unit.

The requested information was delivered on May 14, 1998.

The following additional information was requested.

Email May 15, 1998 – Phil/Scott

Listed below are some issues with our walkdown:

296-S-18

The emission unit was not functioning due to the fan being shut off. (Scott, could you let us know why?) The emission unit was in good shape except for excessive deterioration of the flex connections between the fan housing and the HEPA filter housing, aerosol test ports that were not covered, and contamination control devices not properly attached to the damper control handles. Emission monitoring equipment appeared to be in good condition.

Issue: The flex connections should be maintained to prevent failure of the emission unit. BMP for minor emission units built prior to March 4, 1994.

Issue: The test ports should be "capped" to prevent under estimating of emission. BMP for minor emission units build prior to March 4, 1994.

Issue: The contamination control device (plastic sleeve) on the damper controls were not attached. The passive emissions to the environment should be controlled. BMP for minor emission units built prior to March 4, 1994.

Issue: HEPA filter test ports were not labeled. This is considered a BMP for minor emission units built prior to March 4, 1994.

The last issue would also apply to the other emission units.

296-S-18 was shutdown on May 6, 1998, due to failure of the record sampler. The sample system failed due to the failure of a pressure switch. A replacement pressure switch has been ordered but not yet received. Once the switch is received, repairs will be completed and the exhauster returned to service.

The other issues are being looked into and will be take care of:

Email from Phil Miller received May 18, 1998.

- Review Follow-Up Requests:

  A review of the information resulted in the request for clarification of the periodic sampling data for the 296-S-15 emission unit. Sample gaps exist during periods of operation of the RMCS in the SX Tank Farm Complex. A Notice of Construction condition of operation of the RMCS in SX Tank Farm was that the emission unit (296-S-15) would operate continuously during the RMCS operation. There appears to be a 52.4 hour gap during the sample period from 12-10-97 to 12-23-97, during which time the RMCS truck operated for several days. Additional review of

the daily operational logs for the 296-S-15 exhauster record sampler revealed the record sampler was functional during the days the RMCS truck was in operation.

No other issues were identified.

- Investigation Summary:

  All repair items noted in this report will be verified during future inspections to insure their completion.

All inspection issues are closed.

MULTI-MEDIA INSPECTION

Date: May 14, 1998
Facility: 105 K-East Basin
E. U. Status: 100K-P105KE 001, 2, 3, 4 Operational Minor Stacks

- Inspectors:

  Department of Health – John Martell, John Schmidt
  Environmental Protection Agency – Emad Shahin

- Department of Energy Escorts:

  DOE/RL-EAP – Hector Rodriguez
  DOE/RL-TWRS – Dennis Bowser

- Hanford Contractor Escorts:

  WMH – Russell Johnson

- KE-Basin Facility Escorts:

  Rick Gant, Dave Watson, Jerry Hunacek

- Facility Description:

  The 105 K-East Basin Facility (KE-Basin) is located in the 100-K Area of the Hanford Site. The main function of this facility is to store spent nuclear fuel from the 100-N Reactor. The fuel elements are stored in canisters underwater, which provides a cooling mechanism for the fuel as well as radiation shielding for personnel and environmental purposes. The facility is currently in the process of preparing to remove the fuel from the basin, place it in a more stable configuration and place it in permanent storage in the 200 Areas.

  The KE-Basin is ventilated through four ceiling fans and vents, however there is no HEPA filtration provided on these units. The control of radionuclide emissions is provided by water which covers the fuel elements. In addition the water is chilled, and filtered to keep radionuclide concentrations low.

  Three ambient air samplers located near the entrance to the ceiling fans monitor emissions from the KE-Basin. The filter paper on these samplers is exchanged weekly and analyzed for radionuclides.

- Inspection Description:

  100K-P105KE 001,2,3,4 Emission Unit (KE-Basin)

  The emission unit appeared to be in good condition, all ambient air samplers were in operation and in current calibration (expire October 28, 1998). A glovebox was set up in the basin to perform above water work on empty fuel canisters, and appeared to be in acceptable condition. There were also two portable HEPA filter ventilation units in the basin. Neither unit was in operation, and appeared to be adequately contained to stop any potential fugitive emissions.

- The following information was requested from the facility to be delivered at the close of business May 18, 1998:

  - The last HEPA aerosol test from the two portable ventilation units, the last two months of periodic confirmatory measurements, calibration records of the ambient air samplers.

  - Work place air monitoring and pre-job radiation surveys for the 105-KE and KW corridor 7 modifications as required by the Routine Technical Assistance Meetings of November 12, 1996. These records were delivered and reviewed on May 19, 1998

No issues were identified at the KE-Basin.

- Investigation Summary:

  All inspection issues are closed.

MULTI-MEDIA INSPECTION

Date: May 15, 1998
Facility: 324 Building
E. U. Status: EP-324-01-S Operational Major Stack

- Inspectors:

  Department of Health – Johanna Berkey, Gail Laws
  Environmental Protection Agency – Emad Shahin
  Department of Ecology – Jerry Hensley

- Department of Energy Escorts:

  DOE/RL – Hector Rodriguez
  DOE/RL-TWRS PD – Dennis Bowser
  DOE/RL-324 – Bryant Charbeneau

- Hanford Contractor Escorts:

  WMH – Russell Johnson

- 324 Facility Escorts:

  Dan Johnson, Dave Rasmussen, Ron Gouls (PNNL), Steve Jette (PNNL)

- Facility Description:

  The mission of the 324 Building recently changed from a research and development facility to a facility undergoing decommissioning. Fluor Daniel Hanford Company owns and operates the facility. PNNL manages projects within the 324 Building. The stack monitoring system continuously monitors for alpha and beta. A tritium sampler also monitors stack emissions.

- Inspection Description:

  This inspection scope was an overview of the projects currently operating within this facility and the recent Notice of Violation (NOV) issued by the Department of Health. We reviewed the Plasma Arc Furnace activities and its operations, including a visual inspection of the Plasma Arc Furnace. The Plasma Arc Furnace NOC conditions were the only issues addressed at this time. The stack monitoring system was reviewed and found in compliance with the regulations.

- Requested Documents:

  Chain-of-Custody for Tritium Samples

All items requested were received in a timely manner.

- Investigation Summary:

  All Inspection issues are closed.

MULTI-MEDIA INSPECTION

Date: May 18, 1998
Facility: WRAP/CWC/TRUSAF
E. U. Status: 296-W-04 WRAP Pre-Operational Major and Minor Passive Emissions Units

- Inspectors:

  Department of Health – John Martell, Cindy Grant, John Schmidt

- Department of Energy Escorts:

  DOE/RL-EAP – Hector Rodriguez
  DOE/RL PD – Mark French

- Hanford Contractor Escorts:

  WMH – Tom Frazier

- WRAP Facility Escorts:

  Harlan Boynton, Jay Bottenus, Lee Roberts, Mike Hackworth

- CWC/TRUSAF

  Brett Barnes

- Facility Description:

  The WRAP/CWC/TRUSAF Facilities are located in the 200 West Area of the Hanford Site. The WRAP Facility consists of a ventilated structure in which waste is scheduled to be non-destructive analysis (NDA) performed, repackaged, and/or compacted. WRAP is currently scheduled for start-up the Summer of 1998. The CWC acts as a series of facilities for storage of containerized waste and is currently active. Waste from CWC will be shipped to WRAP for disposition. The TRUSAF Facility has recently had all containerized waste removed from the facility. Due to residual contamination, the emission unit remains active.

- Inspection Description:

  <u>296-W-4 Emission Unit (WRAP Facility)</u>

  This is a registered as a major emission unit. The emission unit appeared to be in excellent shape. The emissions monitoring equipment appeared to be in good condition.

Central Waste Complex (CWC)

This emission unit is currently a minor emission unit. The vents (passive point sources of emissions) are monitored by smears indicating control of the stored material. The near-field monitor, N-964 monitors the facilities for diffuse/fugitive emissions.

Issue: The monitoring of the low-flash point storage facilities revealed that the sample probe was installed incorrectly on the eastern building.

Status: Sample probe has been returned to the correct configuration. **Issue Closed**

Issue: A request was made during the inspection to provide documentation verifying CWC was below their annual possession quantity of Pu-239 does not exceed 2.92E-2 PE (plutonium equivalent) curies, and the annual abated emission limits can not exceed that provided by 1.46E-6 PE curies.

Status: On May 28, 1998, DOE notified the Department of Health the CWC inventory for plutonium equivalent (PE) curies exceeded the NOC document DOE-RL-95-79 Rev. 0 criteria. DOH met with DOE contractor personnel on June 1, 1998, and received updated information on the current CWC NOC. DIE contractors have currently stopped receiving vented containers at the CWC until this issue can be cleared up. Review of the facility radiological surveys, and air monitoring results for ambient air monitor N-964 indicate that radionuclide air concentrations have been at or near ambient levels. The facility is currently pursuing a modification to the current Notice of Construction. **Issue is Still Open**

296-T-11/12 Emission Unit (244-T TRUSAF)

The emission unit was in good shape. Only 296-T-12 was operational. Emissions monitoring equipment appeared to be in good condition.

- The following information was requested from the facility to be delivered at the close of business May 18, 1998: (All information was received)

  - For WRAP no records requested, non-operational.
  - For the CWC the smear and fixed head sample data for February 1998 and June 1997, confirmation of the current inventory.
  - For 296-T-12 the last HEPA aerosol test, instrument calibration, and periodic confirmatory measurement record for each emission unit.

- Investigation Summary:

  Open Issue: DOE notified Department of Health that the CWC inventory of the plutonium equivalent (PE) curies exceeded the NOC document DOE-RL-95-79 Rev. 0 criteria. On June 1, 1998, DOH received from DOE contractor personnel updated information on the current CWC inventory. DOE contractors have currently stopped receiving vented containers at the CWC until this issue can be cleared up. Review of ambient air monitor N-964 surveys indicate that radionuclide air concentrations have been at or near ambient levels. The facility is currently pursuing a modification to the current NOC to reflect these conditions.

MULTI-MEDIA INSPECTION

Date: May 19, 1998
Facility: 1706 KE-Laboratory Inspection and Emission Units
E. U. Status: 1706 KE Operational Minor Stack

- Inspectors:

  Department of Health - Cindy Grant, Johanna Berkey
  Department of Ecology - Bob Wilson

- Department of Energy Escorts:

  DOE/RL -- Hector Rodriguez, Dennis Bowser

- Hanford Contractor Escorts:

  WMH - Tom Frazier, Rod Jochen

- 1706 KE Facility Escorts:

  DESH - Tom Bratrod, Steven Burke, Jerry Kurtz, Gary Stevens, Rick Gant, David Watson

- Facility Description:

  The laboratory performs nondestructive radioactivity analysis. It analyzes work place air samples, fixed head air samples (job coverage), filter paper, waters, and ground water samples.

- Laboratory Analytical Capabilities:

  Gross Alpha, Gross Beta, Gamma, Tritium in Water

  Sample Media - Air, Water, Wipes and Soil

  Quantity -- Perform approximately 2,800 - 3,000 analysis per year. Most analysis are to support 100 KE area activities

- Inspection Description:

  Emission Unit 1706 KE was inspected. The tube to the sampling line was pointing out of the stack. We reviewed the work package 1K-98-01311/H that was submitted on April 22, 1998 to re-attach the line. The repair is scheduled to be completed within the next month.

- Monthly stack samples are collected. One sample is analyzed per quarter.

  A grab air sample from 241-SX-105 Riser 15 collected on March 17, 1998, was selected to evaluate the laboratory's procedures. This grab air sample was used to confirm a release on 241-SX-105. This sample was used to verify chain-of-custody, analytical capabilities, and equipment performance of the 1706 KE-Laboratory. We reviewed the analytical report of that sample and followed it through the analytical process. The calibration, efficiency, and instrument counting procedures were reviewed. The instrumentation was operating properly during the time of sample analysis. The results of the past two proficiencies testing rounds were checked. The laboratory's performance was satisfactory.

- Information Requested from the Facility:

  - Work Package on 1706 KE Stack Probe repair order;
  - Last two results of the EPA and EMSL Laboratory Inter-comparison Studies;
  - Sample Analysis Report for SX-105 Riser 15 collected 3/17/98;
  - Chain-of-Custody for SX-105 Riser 15 collected 3/17/98;
  - KE Counting Laboratory Sample receiving procedure.

All information was received by the close of business on May 20, 1998. All instrumentation was in operating condition during the analysis of the sample. The chain-of-custody of the sample was adequate. The laboratory performs limited analytical procedures. The analyses they do perform seem to be done well.

- Investigation Summary:

  No Inspection Issues Identified.

MULTI-MEDIA INSPECTION

Date: May 19, 1998
Facility: 105 N Reactor
E. U. Status: N 116 Stack Operational Minor Stack

- Inspectors:

  Department of Health – Johanna Berkey, Cindy Grant
  Department of Ecology – Bob Wilson

- Department of Energy Escorts:

  DOE/RL-EAP – Hector Rodriguez
  DOE/RL-TWRS – Dennis Bowser

- Hanford Contractor Escorts:

  ERC – Ray Collins
  ERC – Joe Zoric

- 105 N Reactor Facility Escorts:

  Tom Logan

- Facility Description:

  The 105 N Reactor is a retired plutonium and steam-producing reactor. The reactor stopped operating in 1987 and went to cold standby in 1989. The reactor contains fuel fragments, sediment, and basin water. The N Basin is under an aggressive cleanup campaign to clean up the basin and remove all basin water, sediment, and fuel fragments by July 31, 1998. The N complex consists of several buildings and then the main reactor building.

- Inspection Description:

  The inspectors reviewed the N Stabilization NOC, approved in 1994 by the Department of Health. The NOC granted approval for several activities taking place in the Basin. The Basin activities currently require workers to be wearing a mask. Entry requires that individuals must have a bioassay analysis and mask fit prior to entry. The inspectors did not enter the Basin. Video cameras were setup in the N Basin. We did view the work in progress from a monitor outside of the Basin. The inspectors also reviewed future activities that will take place in the next several months and their potential permitting requirements.

Issue: Inspection of the air monitoring cabinet revealed that the vacuum gauge calibration sticker stated it was calibrated in 1998 and was due 1997. A review of the

records revealed that the calibration date was 1998 and the due date as 1999. It appears that was a transcription error. **Issue Closed**

- Requested Documents:

  Survey Records for the Monoliths
  Final Sediment Total Activity and Quantities

All items requested were received in a timely manner.

- Investigation Summary:

  All inspection issues are closed.